

nate. By this means, the question of groups having been reduced to a few which are most closely coincident, doubts which cannot be dispelled by the best synopses, are either confirmed or dissipated at once. This subject I think eminently worthy M. Guenée's consideration, and that of all systematists who may succeed him. I would beg him to think upon it in connection with his subsequent works, and at least tell students why he values less a solid and self-satisfying reputation, built on essential and successful impetus given to his favorite branch of study in all parts of the civilized world, than that ephemeral position of being the temporary authority for the little entomological world; and if in addition to synopses of all his groups, under the next most general in value, he would add to his works delineations of the distinctive parts of structure in *every genus*, instead of colored representations of a few moths, his works would possess an enduring and permanent value, so long as entomology as a study engages the attention of the student of nature.

### Hemiptera of the North Pacific Exploring Expedition under Com'rs Rodgers and Ringgold.

BY P. R. UHLER.

The Hemipterous insects, brought home by the Expedition, furnish several new and remarkable species, and much praise is due the indefatigable botanist of this Expedition, Mr. Charles Wright, for displaying such zeal in bringing together so many interesting objects. The insect fauna of many of the countries touched at, particularly that of Japan, being almost entirely unknown, renders every addition of species from those localities exceedingly desirable, and it would be matter of deep interest to have an opportunity of examining full series of them.

Considering the importance of the species procured, it is much to be regretted that extensive facilities were not afforded for bringing together a general collection; but, under the existence of contingent circumstances, this was not possible.

The absence of any extensive collection of exotic *Hemiptera* in this country renders it impossible to decide with precision upon a few of the species here included; but should they hereafter be found to have been previously characterized, the proper acknowledgments will be made. As there seems to be no settled opinion in the minds of Entomologists respecting certain groups, particularly with such families as *Halydæ*, *Pentatomidæ*, *Rhaphigastridæ*, &c., and still further on, with *Mictidæ*, *Nematopidæ*, *Acanthocoridæ*, &c., and having met with a genus (*Pachycephalus*) which violates the characters of the families given, I thought it better to place the included species in two large groups (*Pentatomoidæ*, *Coreoidea*), corresponding with the genera *Pentatoma* and *Coreus*, of Fabricius.

### SCUTELLERIDÆ.

CALLIDEA, Burm.

C. *Stollii*, Wolff, Icones Cimicum, 48, tab. 5, fig 45. Hong Kong.

EUCORYSSES, Amyot et Serv.

E. *superbus* ♀.—Deep orange; head bluish-black, lateral lobes and the middle one at tip sanguineous, transversely wrinkled, rostrum and antennæ black, pubescent, eyes and ocelli brownish; thorax deep orange, obsoletely punctured, a lunulate, black depression just behind the head densely, coarsely punctured, exterior and anterior edges black, spot upon the disk, one upon each humerus, and a connecting band upon the basal margin also black; behind each anterior angle is an oblong, rounded, shallow impression, blackish; corium black, punctured; wings dark-fuliginous; scutellum finely punctured, with a band at base, an irregular one dilated and projecting medially forward, 1860.]

upon the middle, one interrupted each side, with an anterior acute point behind the middle and a transverse, roundish spot before the apex black; venter violaceous, the middle with a large sanguineous spot, common to the antepenultimate and preceding segments; caudal segment, except the anus, red, segments 1 to 4 with a transverse, lateral carmine spot, the two posterior of which are obsoletely connected with the discal spot, penultimate one at sides broadly carmine through their marginal length, with an impression each side against the stigmata; pectus punctured, violaceous and black, a rounded spot upon the sides of the anterior and posterior segments; legs black, yellowish pubescent.

Length 10—11 lines. Humeral breadth 5—5½. Simoda, Japan.

One specimen differs in having the anterior band of the scutellum interrupted each side of the middle, so as to form three spots.

PELTOPHORA, Burm.

*P. picta*, Leach, Zool. Misc. Hong Kong.

GRAPHOSOMA, Lap.

*G. rubro-lineatum*, Hope, Cat. Hemipt., p. 12. Hakodadi and Tanosima, Japan.

PENTATOMOIDEA.

BRACHYPELTA, Amyot et Serv.

*B. elevata*.—Black, shining, broad, ovate; head roughly punctured, finely emarginate, rounded, margins reflexed, lateral lobes meeting in front of the middle one; thorax short, transverse, finely but roughly punctured, sides subparallel, margins trenchant, ciliate, anterior angles rather abruptly rounded, behind the head a deep lunulate depression, bounded posteriorly by a very much elevated prominence, which is rather smoother than the surrounding surface, posterior margin truncate; scutellum finely, rather sparsely punctured, depressed behind the middle to the tip, against the basal corners more elevated and polished; hemelytra finely, closely punctured, corium sinuated, ciliated at the basal margins, membranes testaceo-hyaline; abdomen slightly dilated, convex beneath, margins trenchant, projecting a little beyond the breadth of the corium posteriorly; venter polished; legs black, polished, femora ciliate, each with a line of impressed punctures upon the anterior surface, tibiae very spinous, exterior, spiniform teeth of the anterior ones, subequal.

Length 10—12 millim. Abdominal breadth 5—7. Cape of Good Hope.

This species is very closely related to and possesses many of the characters of *B. tristis*, Fab.; it may be distinguished at a single glance, however, from that common species, by the proportionately shorter and less, laterally, oblique thorax, and by the abdomen being much broader than the thorax.

ACATALECTUS, Dallas.

*A. magnus* ♀.—Black, shining, punctured; head rounded, emarginate, with the anterior margin narrowly recurved, lateral lobes meeting by a point of their surface, in front of the middle one, coarsely and deeply rugose-punctate, eyes testaceous, ocelli reddish, antennae piceous pubescent, terminal joints paler, rostrum pitchy black, second joint thickened; thorax subquadrate, anterior angles a little oblique and rounded, behind the head a slightly elevated, irregularly crescent-formed surface, smooth and impunctate, remaining surface very deeply, coarsely and confluent punctured, a series of very fine punctures against the lateral margins, basal margin subtruncate, smooth, with a very few coarse punctures; scutellum polished, rugosely punctured, impunctured at the apex; corium subopaque, very finely and closely punctured, membrane fuliginous, subopaque, freckled with spots of yellow, beneath scabrescently punctured, venter densely so, its disk polished, impunctured, margins trenchant; legs deep black, polished, anterior and middle femora ciliated beneath with a row

[June,

of long slender spines, those upon the posteriors very short, tibiæ densely spinous.

Length 9 lines. Abdominal breadth 5. Hong Kong.

This species must be closely allied to *A. rugosus*, Dallas; but in that species the middle lobe is represented to form the anterior margin of the head, and nothing is said of spots upon the membrane.

#### ERTHESINA, Spin.

*E. fullo*, Thunb. Nov. Ins. Sp. 42, tab. 2, fig. 57, (1783.) *E. mucoreus* Fab. Ent. Syst. iv. 117, 147, (1794.)

#### AGONOSCELIS, Spin.

*A. nubilus*, Fab. Ent. Syst. iv. 112, 124. Loo-Choo Islands.

#### POECILOMETIS, Dallas.

*P. mistus* ♀.—Brownish-cinereous; head rounded in front, middle lobe slightly longer than the lateral ones, surface densely punctured with black, antennæ yellow, punctured with black, penultimate joint black in the middle, almost to each end, eyes brownish-glaucous, with a posterior, narrow yellow lobe, prominent, subtruncate posteriorly, rostrum reaching to the abdomen, a longitudinal line, tips of the articulations and apical segment black; thorax densely punctured, a few impunctured yellow spots scattered over the surface, four of which are placed in a transverse row behind the head, anterior angles armed with a very minute denticle, lateral margins smooth, slightly sinuated, humeral angles prominent, triangularly rounded; scutellum confluent punctured, an impunctured yellow spot against each basal corner; sinuated before the tip, tip rounded; hemelytra flecked with brown, densely punctured, slightly tinged with reddish upon the apex of the corium, membrane yellowish-hyaline, the nervures having interrupted brown lines upon them; beneath less closely punctured, upon the pectus several spots of dense green punctures, under surface of the head also punctured in green spots; disk of the venter, with a broad, smooth, impunctured line, surface tinged with reddish, stigmata, and obsolete spots upon the incisural middles of the segments black; legs reddish-yellow, sparsely pubescent, punctured with black, unguiculi with black tips.

Length to tip of wings  $7\frac{1}{2}$  lines. Simoda, Japan, and Hong Kong, China.

#### PENTATOMA, Lat.

1. *P. fimbriata*, H. Schf. Wanz. Ins. v. 63, tab. 164, fig. 505. Loo-Choo Islands.

2. *P. cruciata*, Fab. Ent. Syst. iv. 119, 153. Hong Kong, China.

3. *P. dissimilis*, Fab. Ent. Syst. iv. 109, 112. Hong Kong, China.

4. *P. humerigera*.—Olivaceous-brown, shining, tinged with æneous: head emarginate, with the central lobe slightly projecting from the emargination, surface closely punctured, eyes prominent, scarcely as wide as the anterior breadth of the thorax, and closely applied against it, ocelli bronzed, antennæ fulvous, second and third joints equal, rostrum reaching the posterior coxæ, testaceous, having a black line above; thorax brassy punctured, humeral projections blackish, salient, subconic, slightly flattened, curved; anterior margin deeply rounded out, behind the head a shallow, transverse, interrupted impression, lateral margins deeply arcuated, with an elongated-oval, impunctured, yellow mark, beginning at the anterior subacute angle; scutellum closely punctured with black, slightly sinuated before the tip, which is bluntly rounded; hemelytra closely punctured, nervures well defined, membrane brownish-fulvous; wings testaceous; tergum black, impunctate, with the lateral margins olivaceous, punctured; beneath polished, olivaceo-testaceous, finely punctured, more deeply and closely so upon the pectus and beneath the humeral projections, a common black spot upon the fourth and fifth segments, and a minute black point against the lateral margin upon the incisures of the segments, stigmata black; legs yellowish-testaceous, pointed with black.

Length  $3\frac{1}{2}$  lines. Humeral breadth 3. Takanosima, Japan.

This species bears some resemblance in form to *P. scabricorne*, H. Schf.; but differs in the form of the humeral angles.

*STRACHIA*, Hahn.

*S. ornata*, Linn. Fauna Suecica, 251, 937. Loo-Choo Islands.

A remarkably small variety of this species was obtained at Petropaulovsk, Kamtschatka; it differs from the type in marking, chiefly, in wanting the medial lateral black spot; the specimens are males, being six millims. in length.

*EYSARCORIS*, Spin.

*E. perlatus*, Fab. Ent. Syst. iv. 125, 177. Simoda and Loo-Choo.

One specimen has the spots of the base of the scutellum very minute, and in another they are entirely wanting.

*NEZARA*, Amyot et Serv.

*N. torquata*, Fab. Ent. Syst. iv. 108, 107. Loo-Choo.

*RHAPHIGASTER*, Lap.

*R. disjunctus*.—Grayish-aneous, shining; head bluntly rounded, middle lobe about as long as the lateral ones; surface confluent punctured, tinged with purplish green anteriorly, eyes brownish, ocelli reddish, antennæ piceous pubescent, base of the apical joint yellow, rostrum yellowish, a line above and tip piceous; thorax brassy-greenish, tinged with purplish, confluent punctured, lateral margins regularly oblique, smooth, yellow, humeral angles slightly rounded, a little prominent, margin against the head yellowish; scutellum same color as the thorax, confluent punctured, a little sinuated before the tip, tip and a geminate spot each side at base yellow; corium grayish-yellow, punctured with black, punctures very dense upon the clavus and lateral margins; membrane and wings yellowish-testaceous; tergum black with a violet reflection, segments each with a yellow spot upon the lateral margin; beneath grayish-yellow, coarsely pointed with black, points absent from the disk, which is smooth, yellow, points becoming confluent in spots posteriorly and upon the external edges of the segmental incisures; sternum black, finely carinate in the middle; ventral spine reaching to the medio-coxæ, yellow; legs yellowish, pointed with black, a black band upon the knees, and another at the tips of the tibiae, tarsi blackish, middle joint paler.

Length 5 lines. Humeral breadth 2 lines. Hong-Kong.

*ACANTHOSOMA*, Curtis.

*A. haematogaster*, Burm. Handb. ii. 360, 4. Hong-Kong.

*TESSERATOMA*, Lep. et Serv.

*T. chinensis*, Thunb. Nov. Ins. Spec. 45, tab. 2, f. 59. Hong-Kong.

*DICHELOPS*, H. Schf.

*D. affinis*.—Elongated-oval, testaceous-yellow, punctured with black, head elongated-triangular, deeply cleft in the middle, points applied, hardly divaricating at the tip, middle lobe about half the length of the external ones, punctured, antennæ reddish, incisures and apical half of the tip joint black, rostrum yellowish, with the extreme tip black; thorax transverse, gradually elevated to the middle, upon which a slightly elevated, arcuated transverse carina, continued to the subacute humeral angles, exists, surface finely wrinkled and punctured, lateral margins lightly arcuated, minutely denticulated; scutellum transversely wrinkled, punctured, and having five longitudinal rows of obsolete granulations; before the tip sinuated, much narrowed; hemelytra very finely punctured with black, membrane testaceous; wings milk-white; venter finely punctured with black, extreme lateral margin a line just outside of the

[June,

stigmata each side, one each side between the stigmata and the disk, and one upon the disk, almost impunctured; legs yellow, finely pubescent, and pointed with black.

Length 7 lines. Humeral breadth  $3\frac{1}{2}$  lines. Simoda, Japan.

### COREOIDEA.

#### DISCOGASTER, Amyot et Serv.

*D. fuliginosus*.—Dark brown, without lustre; head square, rugous, pubescent; antenniferous tubercles robust, blunt; rostrum thick, reaching between the anterior coxæ, tapering towards the extremity; antennæ densely pubescent, basal joint thickest, constricted at its origin, slightly curved, second a little longer than the third, fourth almost equal to the first, all the joints cylindrical, with the tip of the apical one acute; eyes globular, salient, stemmata about as far from each other as from the eyes; thorax subrescentiform, triangular in front to the base of the head, humeral angles produced into flat, plate-like appendages, angular at the tips, posterior margin obtusely rounded, surface densely covered with short pubescence, coarsely transversely wrinkled, before the posterior margin a transverse, slightly elevated line, which does not reach either margin, edges of the crescent irregularly serrate, antero-lateral margins denticulate; scutellum smooth at base, coarsely wrinkled behind the base to the tip; hemelytra a little paler than the other surface, finely clothed with yellowish pubescence, nervures well defined, membrane subopaque; tergum smooth in the middle, pubescent at the sides; beneath sparsely clothed with golden pubescence, stigmata of the postpectus, bright yellow; legs covered with yellowish pubescence, tip of each femur beneath armed with a stout tooth, between which and the tip are a few smaller ones, posterior femora thickest, slightly curved, all the femoræ subcylindrical.

Length 23 millim. Humeral breadth 9 millim. ♀

This insect, owing to the length of the last joint of the antennæ and the absence of the sternal groove, does not completely agree with the genus as characterized by Amyot; but its general affinities seem to cause it to recur to this genus, where we have accordingly placed it.

#### CAMPTOPUS, Amyot et Serv.

*C. annulatus*.—Fuscous, minutely pubescent; head finely shagriné, blackish against the eyes and behind the stemmata, stemmata and eyes reddish-brown, antennæ yellowish, apical two-thirds of the last joint and tips of the others blackish; rostrum with the sides beyond the middle to the tip fulvous; thorax subcampanuliform, posterior angles armed with an acute spine, a minute denticle behind the spine, posterior margin irregularly crenated; surface pubescent, sprinkled with small, black, elevated points; tip of the scutellum yellowish; hemelytra pubescent, nervures very distinct, surface punctured, membrane immaculate, shining; tergum blackish, with a large, rounded, white spot behind the middle, against each incisure a white spot, exteriorly; venter yellowish, sprinkled with irregular dusky marks, a large black discal spot and an interrupted black line upon the middle of the three posterior segments; legs pubescent, spotted and marbled with fuscous and yellow, posterior femoræ particularly dark, armed with five teeth, between the two posterior teeth a few smaller ones, posterior tibiæ slender, curved, yellowish upon the middle, slender, acute spine at tip.

Length 7 lines. ♀. Simoda, Japan.

#### PACHYCEPHALUS, Uhler.

Body robust, elongate-oval; head filled up between the antenniferous tubercles, base of rostrum projecting bluntly; antennæ cylindrical, basal joint thickened, slightly curved, about equal in length to the third, second longest, apical one shortest, fusiform; eyes globular, situated upon a robust promi-  
1860.]



nence; stemmata placed on the line of the eyes, a little nearer them than each other; rostrum reaching the posterior coxæ, first joint thickest, about equal in length to the second, third and fourth subequal, slender; thorax trapezoid; hemelytra about one-third shorter than the abdomen, a little shorter in the female, membrane with the nervures very irregularly ramose; abdomen thick, margins not recurved, superior caudal segment longest in the male; legs unarmed; posterior thighs not thickened, slightly curved.

*P. opacus*.—Dark brown, without lustre, punctured, pubescent; head with the space between the antenniferous tubercle filled up, antennæ pubescent, brown, with the apical two-thirds of the tip joint yellow, upper surface of the head covered with yellowish pubescence; thorax roughly punctured, a transverse, slightly elevated lobe near each anterior angle, posterior margin with a fine, transverse, impressed line, anterior angles acute, posterior ones rounded, lateral margins sinuated, edge slightly recurved, posterior margin truncate; scutellum and corium of the hemelytra punctured and uniform with the thorax; membrane pale brown, nervules very irregular, tip reaching the end of the fifth segment; tergum and beneath uniformly roughly punctured, pubescent, incisures of the tergum yellowish at the lateral margins; legs dark brown, pubescent, tarsi honey-yellow.

Length 10 millim. Humeral breadth  $2\frac{1}{2}$  millim. ♂ ♀. Takanosima, Japan.

This genus presents an entire anomaly amongst the Coreoid Hemiptera with simple legs; it seems to have most affinity with the Gonoceridæ, but it differs from them in the length of the hemelytra and the irregularity of its nervules; its position in the series, as the system now stands, is very difficult to define.

#### GONOCERUS, H. Schf.

1. *G. bipunctatus*, H. Schf. Wanz. Ins., vi., 9, tab. 183, fig. 566. Takanosima and Loo-Choo.

2. *G. punctipennis*.—Body ovate, tawny-yellow; head punctured with black, space almost filled up between the antenniferous tubercles; tubercles but slightly prominent, middle of the head sulcate; antennæ reddish, pubescent, tips of the first three joints blackish, middle of the apical joint dusky, second joint longest, third a little shorter than the basal one, apical joint about half the length of the second, subfusiform, thickest; two basal joints of the rostrum about equal, apical ones subequal, apex minutely black; a slender black line behind the eyes to the base of the head, eyes brownish, globular, stemmata reddish; thorax trapezoid, gradually narrowed anteriorly to the breadth of the head, sides a little arcuated, margins recurved, paler than the surface, humeral angles bluntly triangular, hardly acute; surface closely punctured with black, behind the head slightly depressed, before the posterior margin a fine, transverse, elevated line interrupted at each end; scutellum and hemelytra minutely and densely punctured, the latter with pale, smooth, elevated costal margins, and upon the disk a small round black dot, membrane pale, semitransparent, nervures longitudinal, numerous, wings same color as membrane, nervures black; abdominal margins lightly recurved, tergum with two small black spots before the tip, and a number of irregular blackish marks near the sides; venter and beneath pale-yellowish, covered with minute, scattered punctures, a double irregular row of black points each side of the venter, within the stigmal orifices, a few others against the sutures of the discoidal segments, and a single one upon the side of the medio and postpectus; legs minutely pointed with black, finely pubescent.

Length 14 millim. Abdominal breadth ♀ 7 millim. Simoda, Japan.

The female has the antepenultimate segment posteriorly deeply emarginate; at the base of this segment is also an elevated biemarginate process, at which the vulvar opening commences.

## HOMEOCERIDÆ.

## ANACANTHUS, Uhler.

Body elongated, sides parallel; head square, lightly emarginated between the antennæ, and furnished with a feeble carina; behind the emargination, longitudinally impressed; eyes globular; stemmata situated on the posterior line of the eyes, a little nearer them than each other, a slight transverse impression before each; rostrum reaching half way between the anterior pairs of legs, first and second joints nearly equal in length, second thickened, next and the apical one cylindrical, subequal; antennæ cylindrical, slender, as long as the body, basal joint a little more robust than the others, slightly arcuated, second longest, third and apical ones subequal, the latter cylindrical, acute; thorax trapezoid, humeral angles not armed; membrane with the nervures numerous, chiefly longitudinal, tip not extending beyond the abdomen; legs simple, posterior femoræ not thickened, two pairs of hind-femoræ arcuated; abdomen not dilated, sides parallel.

*A. concoloratus*.—Cinnamon-yellow, legs and antennæ deeper, beneath paler, above uniformly, finely punctured, last joint of the antennæ dusky, with a minute black tip; eyes brownish; stemmata reddish; humeral angles simply angulated, an irregular, transverse elevated line before the hind-margin; membrane pale-yellowish, with a brassy tint, a thick nervule running nearly half the length of its posterior margin black; wings whitish, slightly tinged with brassy lustre; origin and basal half of the costal nervure red, remaining part yellow, some of the discal nervures margined with red, the rest brownish or yellow; beneath pale, polished, pectus finely punctured, unguiculi blackish.

Length 16 millim. Humeral breadth  $4\frac{1}{2}$  millim. ♂. Hong-Kong, China.

## LYGÆIDÆ.

## LYGÆUS, Fab.

1. *L. equestris*, Linn. Fauna Suecica, 946. Hakodadi, Japan.
2. *L. mundus*, Dallas, Brit. Mus. Cat. Hemip. 542, 32. Cape Good Hope.
3. *L. ornatus*.—Head saugineous-red, base, under side and slender longitudinal line black, rostrum also black, in the midst of the basal black spot is a minute whitish dot; eyes brownish, stemmata yellowish; antennæ ———; thorax red, margins not elevated, a black, each side interrupted, line behind the head, two triangular spots behind near the posterior angles, and two round dots of a deeper black, almost connecting the anterior band with the posterior spots; scutellum black, with a red tip and posterior margin; corium red, whitish against the membrane, a black oval spot running from near the internal angle to the humeral one, where it is reduced almost to a point, another subtriangular one behind the former against the external margin; membrane black, exterior margin and point at the basal angle white; disk of the venter blackish, margins red, stigmata black; each pectoral segment with a large black spot, pulverulent with whitish; a series of four round blacker points each side of the pectus; legs piceous, powdered with whitish.

Length  $9\frac{1}{2}$  millim. ♀. Hong-Kong, China.

## PACHYMERIDÆ.

## PACHYMERUS, H. Schf.

*P. albo-marginatus*.—Elongated, black; head black, pubescent, impunctured; rostrum piceous, paler in the middle; thorax trapezoidal, lateral margins broadly elevated, pale testaceous; basal breadth less than the length, surface densely punctured upon the basal half, behind the head and against the lateral margins, middle transverse, impressed line distinct, a slightly elevated, longitudinal line reaching from it to the base, humeral angles obtusely rounded; scutellum black, sparsely punctured, tip and a slightly elevated line against it testaceous; hemelytra coarsely punctured, testaceous, a large black

1860.]

spot, covering the clavus, reaching to the subcostal nervure and extending two-thirds of its length, when it becomes blacker, and ramifies broadly against the lateral margin, a much narrower branch also continues against the posterior margin; membrane fuliginous, some of the nervures tinged with testaceous, towards the base; wings pale fuliginous, nervures darker; tergum with two pale spots upon the lateral margin; femoræ black, their basal third and trochanters testaceous, tibiæ light-piceous, black at tip, tarsi dusky at tip.

Length 11 millim. ♀. Takanosima, Japan.

Nothing is said of the antennæ, as they are unfortunately broken off from the only specimen obtained.

A specimen, which I take to be a variety of this species, was captured at the Cape of Good Hope.

It differs from the type in having the posterior thoracic lobe marmorated with testaceous, the hemelytral spot is not so black, spreading more irregularly over the surface, the testaceous color is faintly spread over the margins of the tergum, the femoræ are testaceous for two-thirds of their basal length, the tibia and tarsi are almost entirely testaceous, and the rostrum is tinged with piceous, more or less deep, throughout its entire length. Its length is  $10\frac{1}{2}$  millim. ♀.

It corresponds with what is considered as a not full colored state of many insects of this and other families of Hemiptera, wherein the insect has not lived long enough to attain its complete depth of coloring, or where certain physical contingencies have retarded its attainment to full perfection of color.

APHANUS, Dallas.

*A. boniniensis*.—Pitchy-black, finely pubescent; head black, antennæ testaceous, tips of joints black, rostrum testaceous, piceous in front and at the tip, eyes dark brown, stemmata yellowish; thorax subcampanuliform, pubescent, anterior lobe rounded at sides, dark brownish, posterior lobe reddish, with a testaceous line upon the humerus bounded by a black line; corium yellowish-testaceous, margins paler, a spot at the apex, another a little in advance of it, punctulation and a few minute spots black; membrane fuliginous, nervules white; wings white; beneath black, margins of the abdomen and antepectus pale piceous; legs testaceous, a band upon the anterior femora, one upon the middle and posterior femora, and tips of tibiæ blackish.

Length 5 millim. ♀. Bonin Islands.

ORTHEA, Dallas.

Elongated, black, opaque; head clothed with long hairs, first joint of the antennæ with a pale base, remaining joints —; rostrum reaching to the posterior coxæ, slender, curved, its color piceous, paler towards the tip, with a black longitudinal line; eyes brownish, darker upon the middle, stemmata amber-yellow; thorax clothed with long hairs, deep black, opaque, posterior lobe strongly punctured, a pale piceous spot upon the broad, transverse impression, including a slightly elevated, short, longitudinal line; anterior lobe strongly convex; scutellum black, coarsely but sparsely punctured; hemelytra testaceous, clavus, excepting the exterior nervure, vestiges upon the corium, large transverse spot, extending from the apex of the scutellum to the lateral margin and posterior margin, gradually dilating to the tip, black; membrane fuliginous, a number of small spots near the tip, nervules measurably, and small round spot near the apex of the corium, testaceous; disk of the tergum rufescent, lateral margin and two posterior segments blackish, fourth segment with a large, marginal, yellow spot each side; beneath dull black, antepectus punctured, postpectus yellow at its superior angles, minutely corrugated, mediopectus punctured and wrinkled; venter without lustre, a large yellowish spot upon the margin of the fourth segment, and a smaller one upon the fifth; trochanters and coxæ testaceous, anterior femora black, testaceous at base,

[June,



armed with a number of minute teeth, tibiæ all pale piceous, middle femora piceous, paler toward the base.

Length 12 millim. ♀. Hong-Kong, China.

*PELIOSOMA*, Uhler.

Body elongated; head long, triangular, each side, between the antennæ, with a small, curved lamellæ, concave on the exterior side, interrupted at the origin of the rostrum, and not extending back much beyond the antennæ; rostrum reaching but little behind the anterior coxæ, basal and second joints subequal in length, third and fourth also subequal; antennæ ♂ as long as the body, ♀ not quite two-thirds of that length, basal joint longest, clavate at tip, second somewhat longer than the third, fourth shortest, subfusiform; thorax elongated subtrapezoidal, base elevated, lateral margins obtusely and feebly carinated; hemelytra as long as the abdomen, membrane with five longitudinal nervules; legs normal, anterior tibiæ curved.

*P. antennata*.—Tawney, lustrous, punctured with black; head and thorax densely punctured, the latter with a longitudinal, raised, polished, yellow line, but little punctured, lateral obsolete, carina yellow, posterior angles tubercular; anterior lobe convex, a broad transverse depression behind it; antennæ honey-yellow, paler upon the third joint, apices of the first and second joints dusky, last joint entirely so; eyes and ocelli brown; rostrum fulvous, dusky behind the middle to the tip; scutellum with a yellow line at tip and a yellow, short, tubercle-like line each side of base; corium dusky near the internal angle, apex with a small blackish dot, membrane honey-yellow, with white nervules; field of the tergum black, sides yellow, with black dots at the incisural margins; beneath varied with piceous and testaceous, pectus more uniformly pitchy, densely punctured, margins of the venter tawney yellow; legs honey-yellow, pointed with black; tips of tibiæ and tarsal joints blackish.

Length 8 millim. Simoda, Japan.

*OPHTHALMICUS*, Schill.

*O. varius*.—Black; head and legs orange-yellow; antennæ piceous, basal joint and apex of the third, yellowish; eyes light-brown, rostrum honey-yellow; thorax square, broader than long, surface polished, black, coarsely punctured; posterior angles with a subquadrate, small, yellow spot; scutellum black punctured; corium and membrane honey-yellow, the former punctured with black, most thickly so upon the exterior and interior margins; tergum and beneath polished black; pectus punctured.

Length 5 millim ♂. Simoda, Japan.

It belongs to Fieber's second subdivision (a\*\*) and seems to approach his *O. sículus*, more nearly than any other species.

*PYRRHOCORIDÆ*.

*PYRRHOCORIS*, Fallen.

*P. Forsteri*, Fab. Ent. Syst. iv. 164. H. Schf. W. I. viii. tab. 283, f. 372. Cape Good Hope.

*DYSDERCUS*, Serv.

*D. carnifex*, Fab. Ent. Syst. iv. 160. H. Schf. W. I. ii. tab. 66, f. 199. Cape Good Hope.

*D. Schlanbuschii*, Fab. Ent. Syst. iv. 155. Donovan, Ins. China, tab. 20, f. 2. Hong Kong.

*LEPTOCORIS*, Hahn.

*L. haematideus*, Hahn., W. I. tab. i, fig. 3, vol. i. Hong Kong, China. 1860.]

## LARGIDÆ.

LARGUS, Hahn.

*L. cinctus*, H. Schf. W. I. vii. tab. 218, f. 683. California.

## ECTRYCHODIDÆ.

PHYSORHYNCHUS, Serv.

*P. crux*, Thunb. Dissert. Acad. 156. Hahn. W. I. i. tab. 5, f. 20. Cape Good Hope.

## HARPACTORIDÆ.

ARILUS, Burm.

*A. bifidus*, Fab. Ent. Syst. 4, 204. Donovan, Ins. China, pl. 21, f. 5. Hong Kong.

HARPACTOR, Lap.

*H. nodipes*.—Black, polished; head black, pubescent, bilobed, grooved between the ocelli; ocelli whitish; eyes large, black; antennæ black, apical joints piceous, pubescent, basal joint with two whitish rings upon the middle; rostrum robust, black; thorax pubescent, longitudinal impressed line, interrupted upon the middle of the posterior lobe, prothorax each side of the head produced into a subacute tubercle; scutellum without spinous processes; corium pitchy-black, membrane fuliginous, nervures darker; tergum blackish, lateral margins much dilated, crenulated, the incisures and a large postero-lateral spot upon the two last segments, whitish; beneath, black polished, venter sprinkled with numerous round, yellow points, the two posterior segments tinged with pale piceous; the spots of the upper marginal surface obvious beneath; legs black, three knot-like pilose prominences upon, and near the tips of the femora, two yellow bands upon the femora, and one upon the tibiæ; nodulæ much less obvious in the ♂ than in the ♀; yellow femoral bands, also more numerous in the male.

Length 12 millim. Simoda, Japan.

## STENOPODIDÆ.

CANTHESANCUS.

*C. trimaculatus*, Amyot et Serv. Hemipt. 389, pl. 7, fig. 20. Hong Kong.

## GERRIDÆ.

HALOBATES, Esch.

*H. sericeus*, Esch. Entomograp., 164, 79, tab. 2, f. 4. Atlantic Ocean near the Equator.

PTILOMERA, Amyot et Serv.

*P. tigrina*.—♂ Fulvous, polished, beneath silvery sericeous; rostrum with the apical joint and tip of the preceding one black, nasus and spot at the origin of the antenna black, head impressed at the origin of the rostrum, eyes brownish-black; prothorax subquadrate, largely impressed posteriorly, sides of the thorax with a silvery undulating line bounded each side by a black line, and extending from the base of the prothorax to the origin of the posterior legs, sutures black, behind the head three minute spots, behind the prothorax, included in a rounded impression, two larger ones and upon the posterior transverse suture, silvery sericeous; metathorax impressed each side against the anterior transverse suture, and having a slender impressed middle line; abdomen much narrower than the thorax, about equal to it in length, sutures black, particularly at the sides of the segments, sides of the segments slightly sericeous, anal and caudal appendages filiform, acute; two lamellar

[June,

anal processes, emarginate above, each projecting into a subtruncate point inferiorly; legs long, slender, fulvous, posterior pair longest, anterior pair with two slender black lines superiorly; a black spot each side upon the pectus, before the anterior and middle legs; anterior tibia and tarsi pubescent. middle tibia armed with long cilia, posterior tibia ———.

Length to tip of abdomen 15 millim., prothorax 2, mesothorax 4 millim. Hong Kong, China.

GERRIS, Fab.

*G. rufo-scutellatus*, Latr. H. Schf. W. I. ix. 69. tab. ccc. fig. 924. Simoda.

PEDIRAPTI.

DIPLONYCHUS, Lap.

*D. rusticus*, Fab.; Donovan, Ins. China, p. 46, pl. 19, fig. 1. Loo Choo.

NEPA, Fab.

*N. rubra*, Linn.; Donovan, Ins. China, p. 47, pl. 19, fig. 2. Hong Kong.

NOTONECTIDÆ.

BOTHRONOTUS, Fieb.

*B. biimpressus*.—Robust, shining, dusky-yellowish testaceous; head narrower than the thorax, with a punctured impression each side upon the front, from both of which a punctured, impressed line extends to a shallower impression, each side, near the base, apical joint of the rostrum piceous: thorax transversely wrinkled, transparent, a transverse brownish band upon the anterior submargin; each side, behind the fossa, depressed; scutellum black; corium with a pitchy stripe upon the interior suture, a spot at base and against the apex, exterior submargin and membrane dusky; basal areole and veins of the latter piceous; embolium and connected edge yellow; wings fuliginous, veins darker; tergum piceous, posterior margins of the segments paler, lateral margins and caudal extremity yellowish, the last clothed with long golden hairs; venter pale piceous, middle carina and margins yellowish: legs testaceous, clothed with golden hairs.

Length 11 millim, breadth of thorax 5 millim. Hong Kong.

Var. a. Pale, luteo testaceous, ventral disk and basal areole of the membrane dusky.

### Notes on Shells.

BY T. A. CONRAD.

In "Tertiary Fossil Shells of the United States," I characterized a genus of *Carditidæ*, published in 1838, under the name of *CARDITAMERA*, which has generally been referred to the genus *MYTILICARDIA* of Blainville. The two genera differ so much in external form, that they can easily be recognized without reference to the hinge. The former has the general form of an elongated *ARCA*, Lam., whilst the latter has an outline somewhat like that of *Modiola*. The genus *CARDITAMERA*, Dr. Gray has since named *LAZARIA*, the reason for the change of name being unknown to me.

In this country the genus *CARDITAMERA*, originated in the Miocene period, which contains three known species, and there is one living, which inhabits the coast of Florida. One is said to inhabit Madagascar, and all the others are American. It does not appear that any species of *MYTILICARDIA*, is American, either recent or fossil. The type of *CARDITAMERA* is *Cardita pectunculus*, Brug.

1860.]